

IN THE CLAIMS:

Claim 1 (currently amended): A purified protein comprising an amino acid sequence selected from the group consisting of the following sequences:

(a) an amino acid sequence of SEQ ID NO: 2, and

(b) a modified amino acid sequence of the amino acid sequence of SEQ ID NO: 2 that has one or more to several modifications selected from a substitution, a deletion, an addition and an insertion and has cyclic depsipeptide cyclo(D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl-D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl (PF1022) synthetase activity.

Claim 2 (withdrawn): A polynucleotide encoding the protein of claim 1.

Claim 3 (withdrawn): A polynucleotide according to claim 2, which comprises the DNA sequence of SEQ ID NO: 1.

Claim 4 (withdrawn): A polynucleotide selected from the group consisting of the following sequences:

(c) a DNA sequence of SEQ ID NO: 1,

(d) a nucleotide sequence that has at least 70% homology to the DNA sequence of SEQ ID NO: 1 and encodes a protein having cyclic depsipeptide synthetase activity,

(e) a modified DNA sequence of the DNA sequence of SEQ ID NO: 1 that has one or more modifications selected from a substitution, a deletion, an addition and an insertion and encodes a protein having cyclic depsipeptide synthetase activity, and

(f) a nucleotide sequence that hybridizes with the DNA sequence of SEQ ID NO: 1 under stringent conditions and encodes a protein having cyclic depsipeptide synthetase activity.

Claim 5 (withdrawn): The polynucleotide according to claim 4, wherein sequence (d) is a nucleotide sequence that has at least 80% homology to the DNA sequence of SEQ ID NO: 1.

Claim 6 (withdrawn): The polynucleotide according to claim 4, wherein sequence (d) is a nucleotide sequence that has at least 90% homology to the DNA sequence of SEQ ID NO: 1.

Claim 7 (withdrawn): A recombinant vector comprising the polynucleotide of claim 2 or claim 4.

Claim 8 (withdrawn): A host comprising the expression vector of claim 7.

Claim 9 (withdrawn): The host according to claim 8, which expresses a cyclic depsipeptide synthetase.

Claim 10 (withdrawn): The host according to claim 8, which is a substance PF1022-producing microorganism.

Claim 11 (withdrawn): A method for producing a cyclic depsipeptide, which comprises the steps of culturing the host of claim 8 and collecting the cyclic depsipeptide from the culture medium.

Claim 12 (withdrawn): The method according to claim 11, wherein the cyclic depsipeptide is the substance PF1022 and a derivative thereof.

Claim 13 (currently amended): A method for producing a ~~cyclic depsipeptide synthetase protein having cyclo(D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl-D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl (PF1022) synthetase activity~~, which comprises the steps of culturing ~~the a host cell of claim 8 transformed with a vector containing a nucleotide sequence selected from the group consisting of~~:

- (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 2;
- (b) the nucleotide sequence of SEQ ID NO: 1;
- (c) a nucleotide sequence that has at least 80% homology to the nucleotide sequence of SEQ ID NO: 1 and encodes a protein having PF1022 synthetase activity; and
- (d) a nucleotide sequence that hybridizes with the nucleotide sequence of SEQ ID NO: 1 under stringent conditions and encodes a protein having PF1022 synthetase activity; and
collecting the ~~cyclic depsipeptide synthetase protein~~ from the culture medium.

Claim 14 (cancelled)

Claim 15 (new): A purified protein encoded by a nucleotide sequence selected from the group consisting of:

- (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 2;
- (b) the nucleotide sequence of SEQ ID NO: 1;
- (c) a nucleotide sequence that has at least 80% homology to the nucleotide sequence of SEQ ID NO: 1 and encodes a protein having cyclo(D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl-D-lactyl-L-N-methylleucyl-D-3-phenyllactyl-L-N-methylleucyl (PF1022) synthetase activity; and
- (d) a nucleotide sequence that hybridizes with the nucleotide sequence of SEQ ID NO: 1 under stringent conditions and encodes a protein having PF1022 synthetase activity.

Claim 16 (new): The purified protein of claim 1, wherein the modified amino acid sequence (b) has one to six modifications.

Claim 17 (new): The purified protein of claim 1, wherein the modified amino acid sequence (b) has one modification.